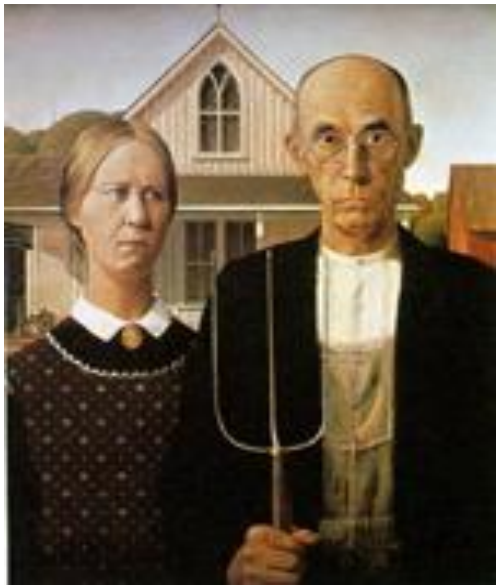
Legacy platforms replacement



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Contents

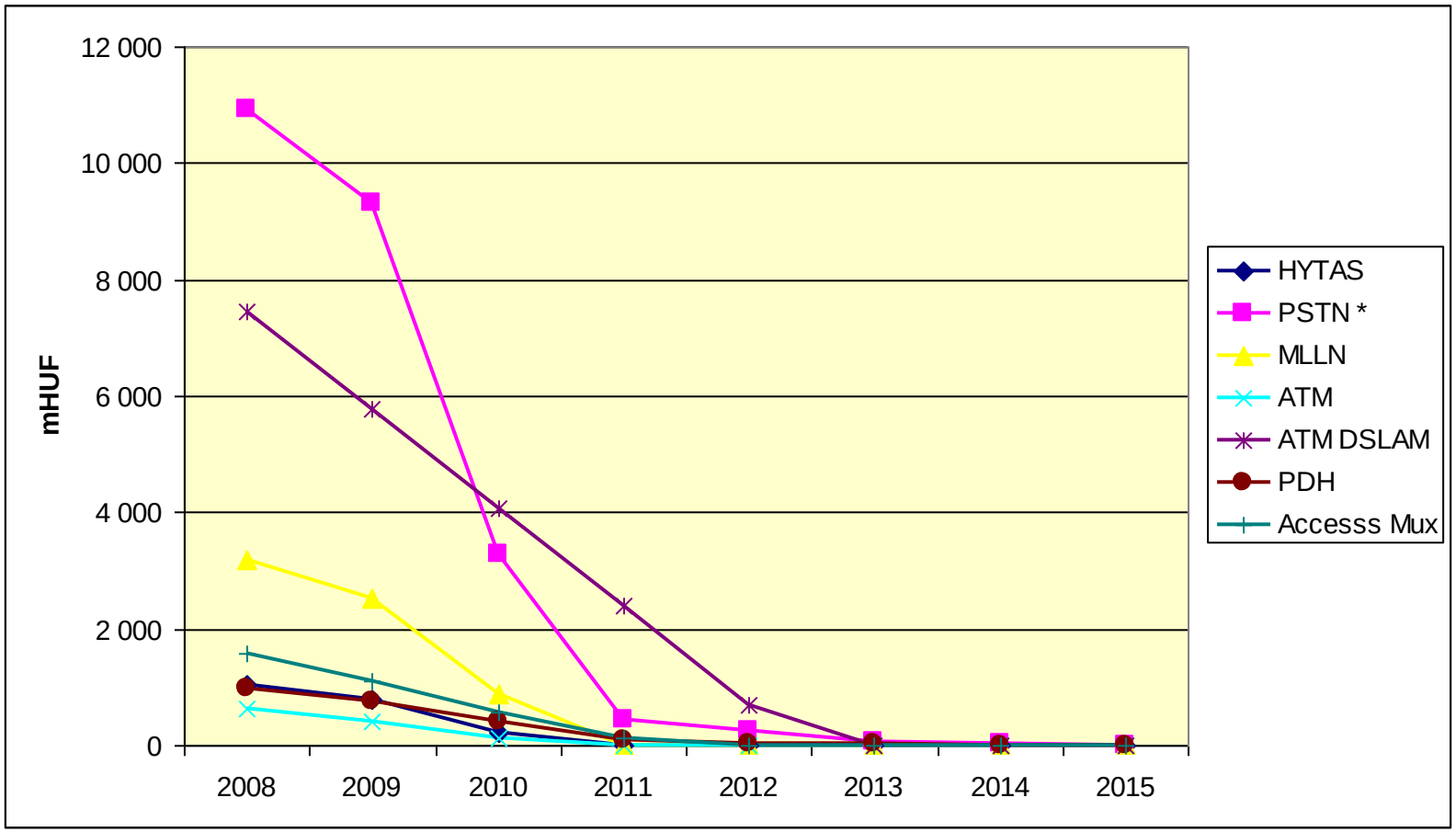
- Old legacy systems in MT’s network
- Financial statistics
- Technical risks
- Target architecture and migration rules
- Estimated capex and proposed time schedule
- Conclusions

Old legacy systems in MT's network

Platform	Network size	Average equipment age (year) *
Hytas-Ke voice optical access	**125k POTS**; **12k ISDN** capacity	**12**
PSTN voice switches	**3.4 M 64kbit/s** channel capacity	**18**
MLLN narrowband data	**13 000 user equipment** at **1000** CO sites	**12**
ATM DSLAM broadband access	**213k port** capacity **451** sites	**6**
PDH old transmission	**1555 equipment** at **1128** CO sites	**15**
Access Mux-es voice access	**36.7k POTS**; **2.6k ISDN** capacity at **725** sites	**11**

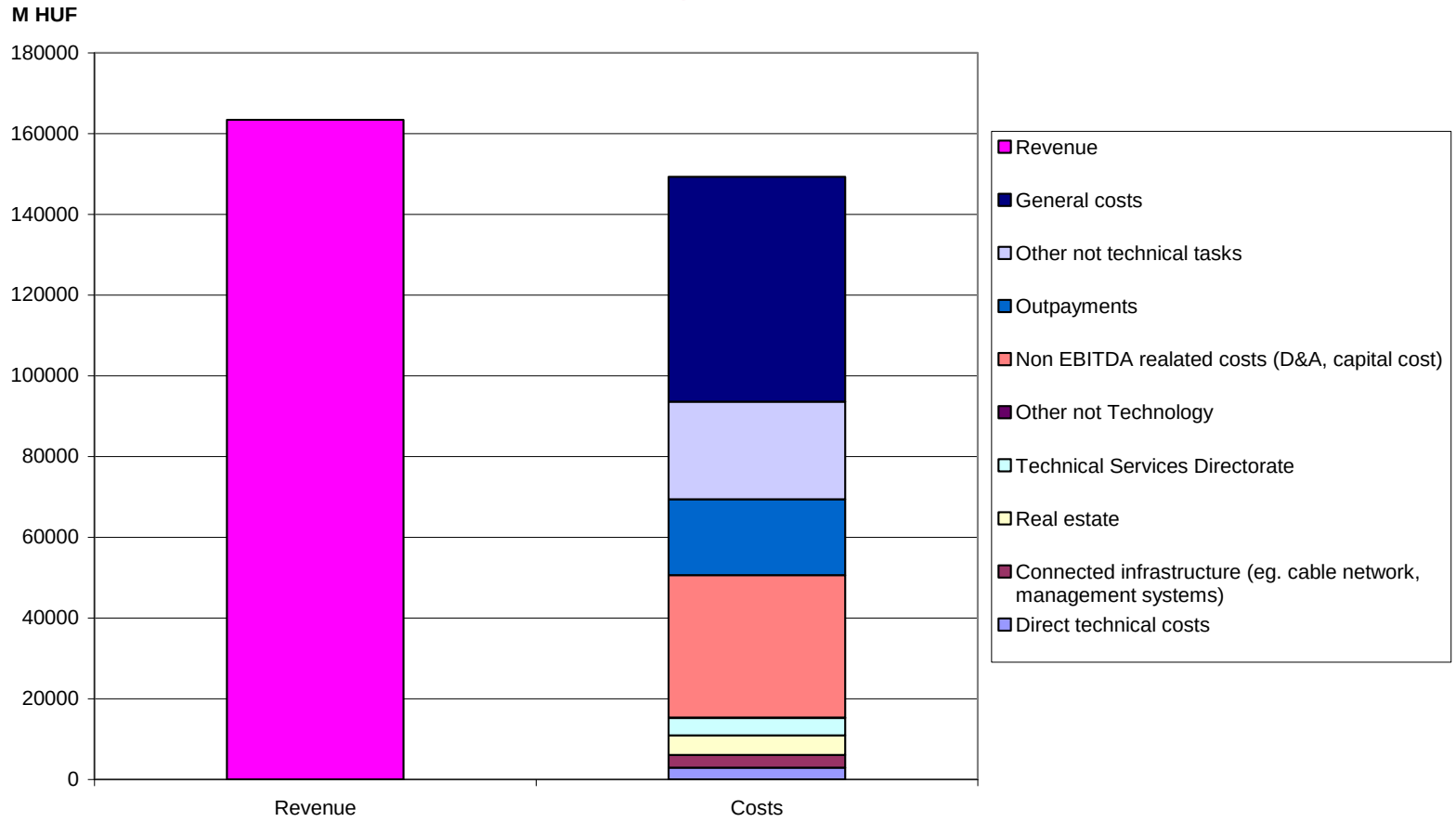
* average time from purchase weighted by equipment number

Book values of legacy systems



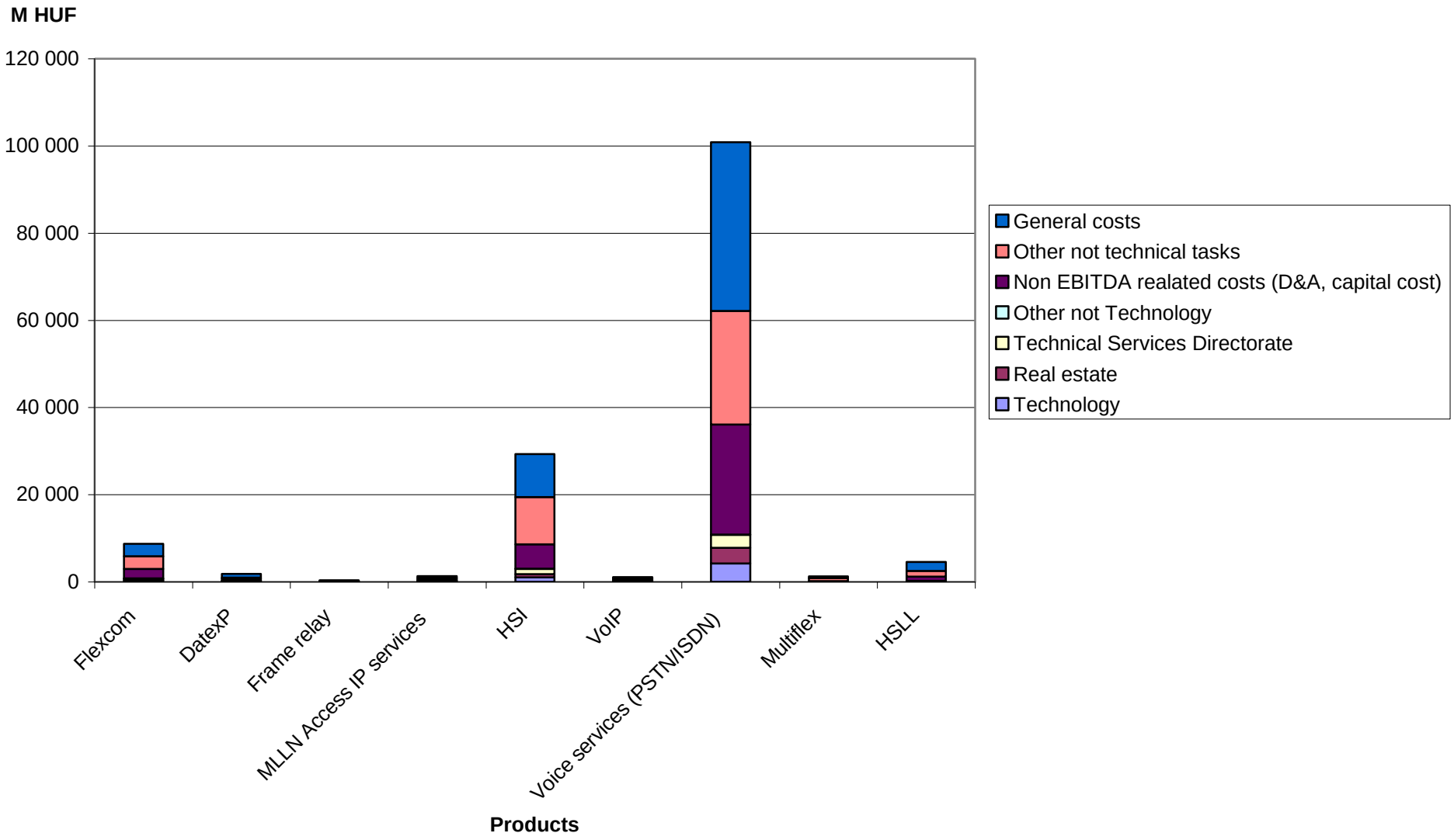
* Not including ADS exchanges

Costs and revenues of legacy systems in 2008

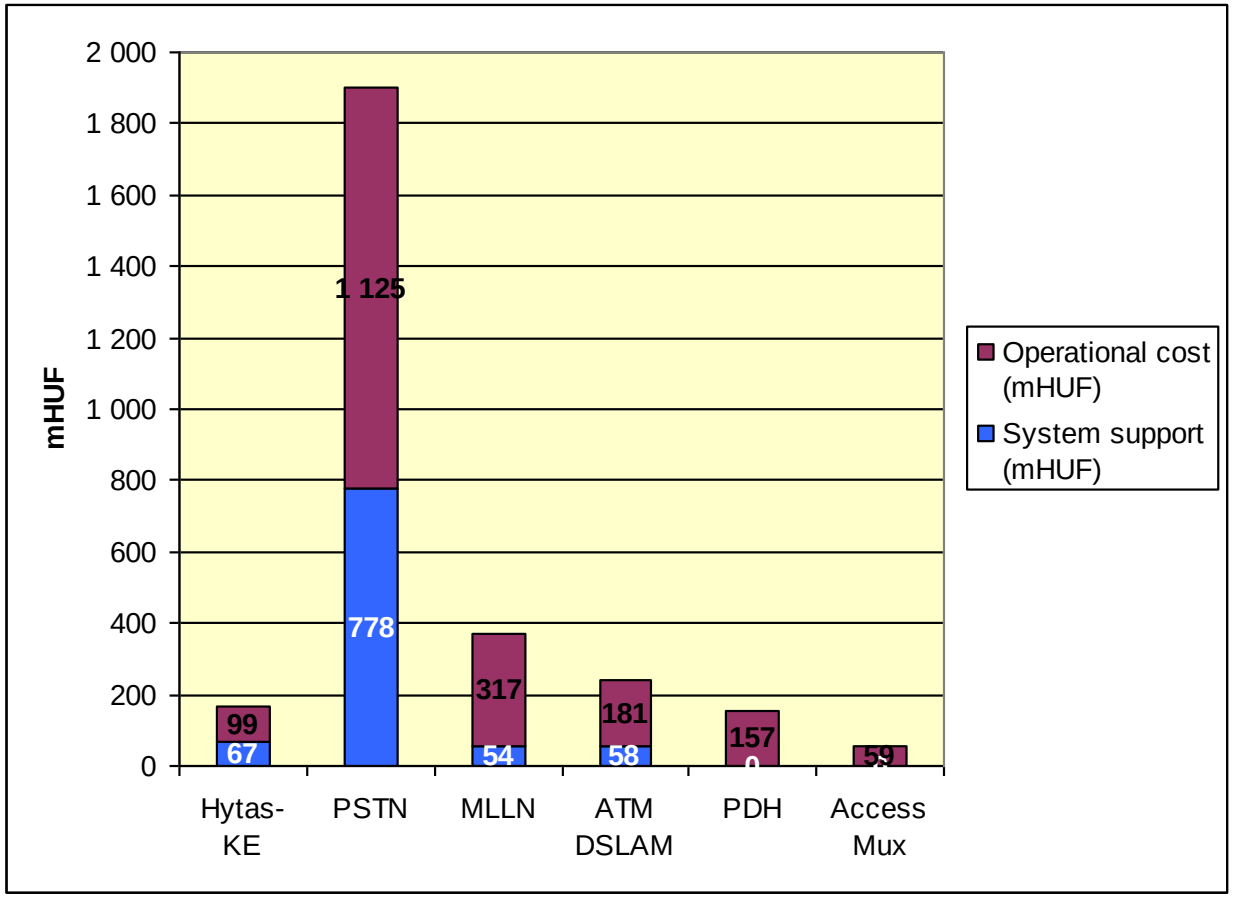


- Legacy systems support to generate 163 BHUF revenue
- The most significant cost components:
  - General costs: 37%,
  - Outpayments: 13%,
  - other not technical tasks (mostly marketing activities): 16%,
  - D&A, capital cost: 24%.
  - Direct technical cost is only 2% (2,9 BHUF)

Costs of products in 2008



Direct technical costs in 2008



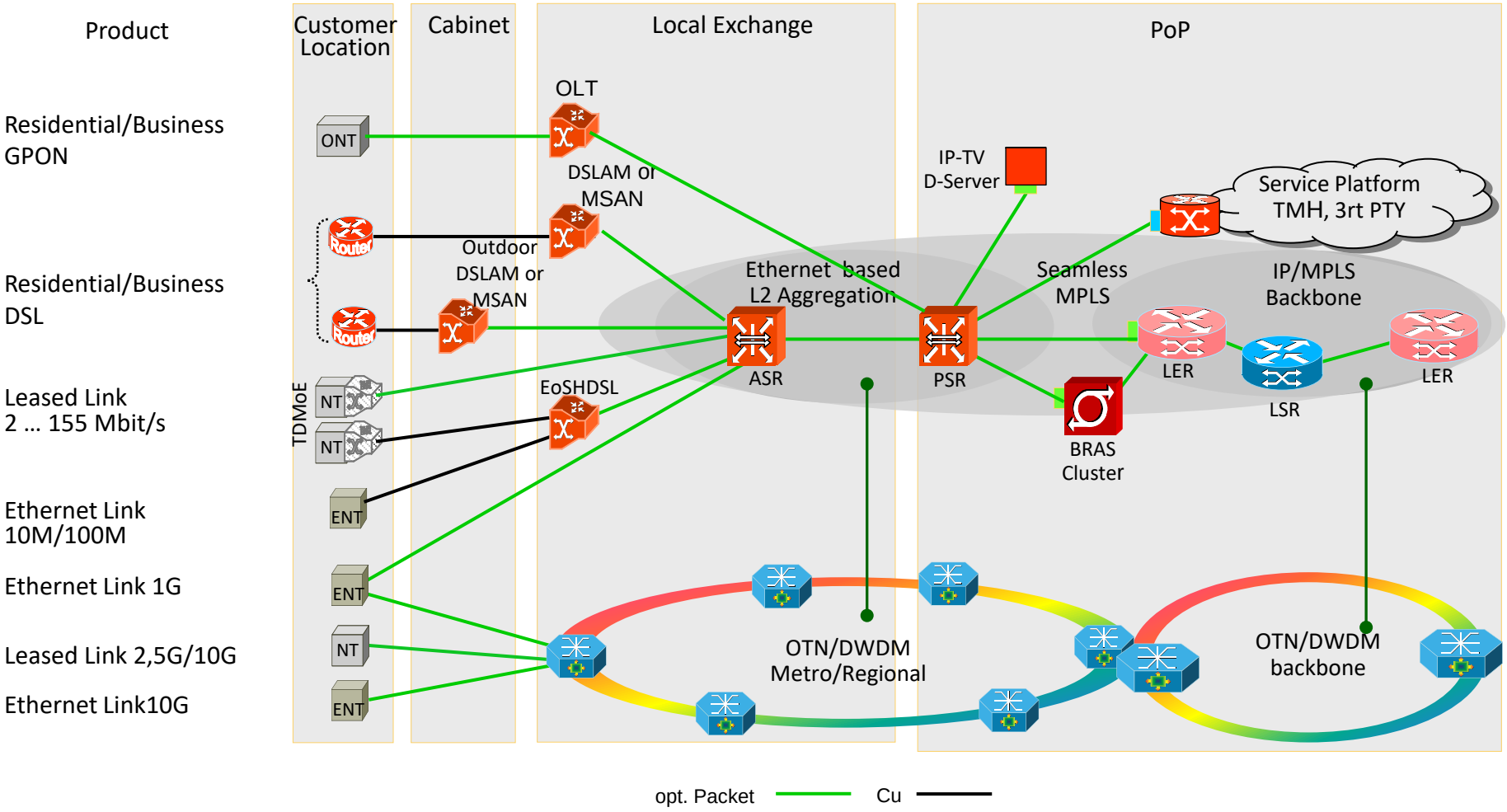
Technical risks

- **General risks**
  - the equipment are very old, they are at their end of life (EOL) or over EOL
  - high probability of equipment failures, difficult to keep the SLAs
  - very expensive system support or no system support at all from the vendor
  - lack of spare parts
  - repairing faulty cards is difficult or not possible

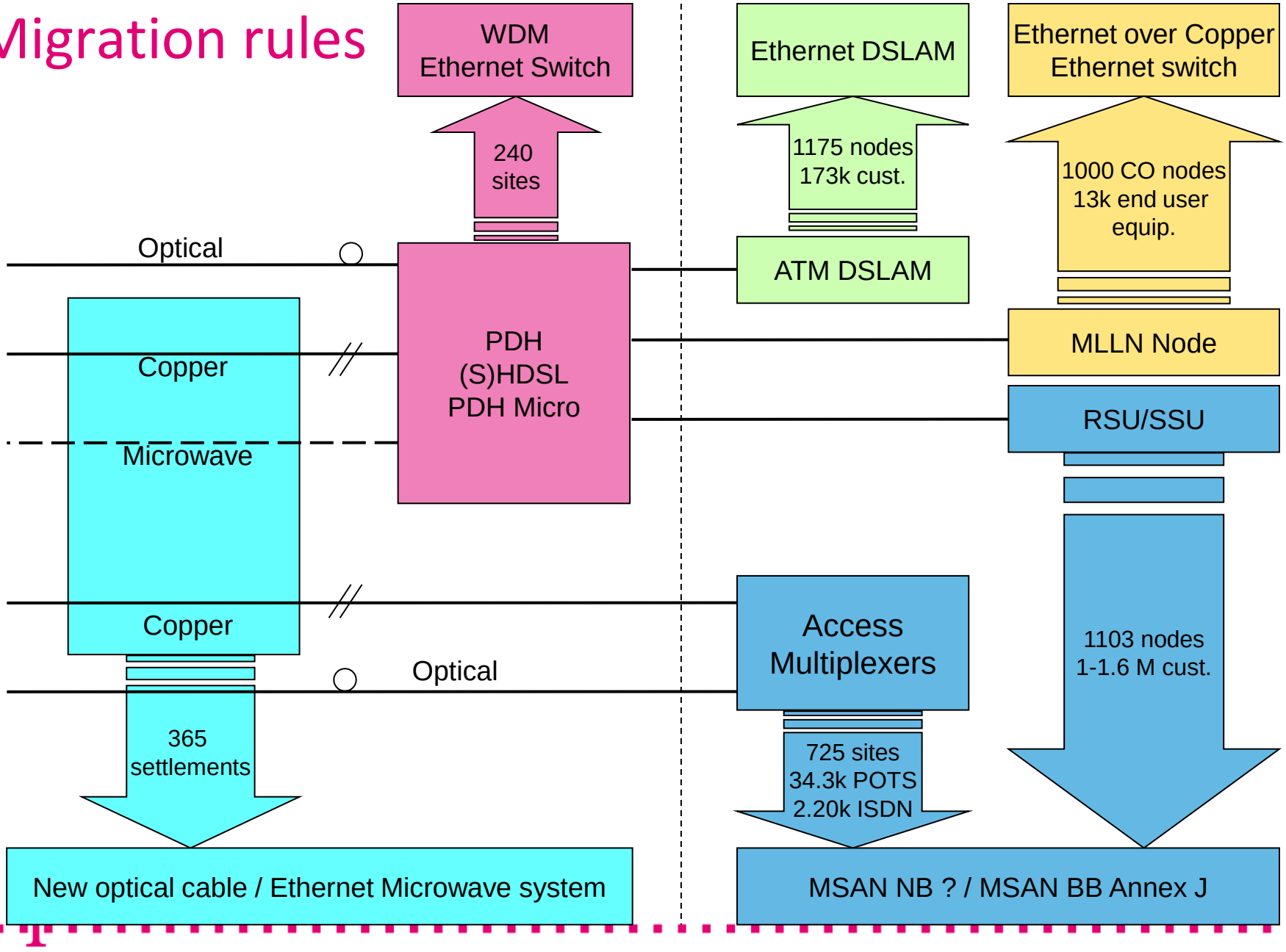
- **PDH specific risk**
  - High risk of equipment faults, especially end of life of Lasers

- **Access Mux specific risk**
  - difficult and expensive operation due to degradation and increasing saturation of copper cables

Target network architecture



Migration rules

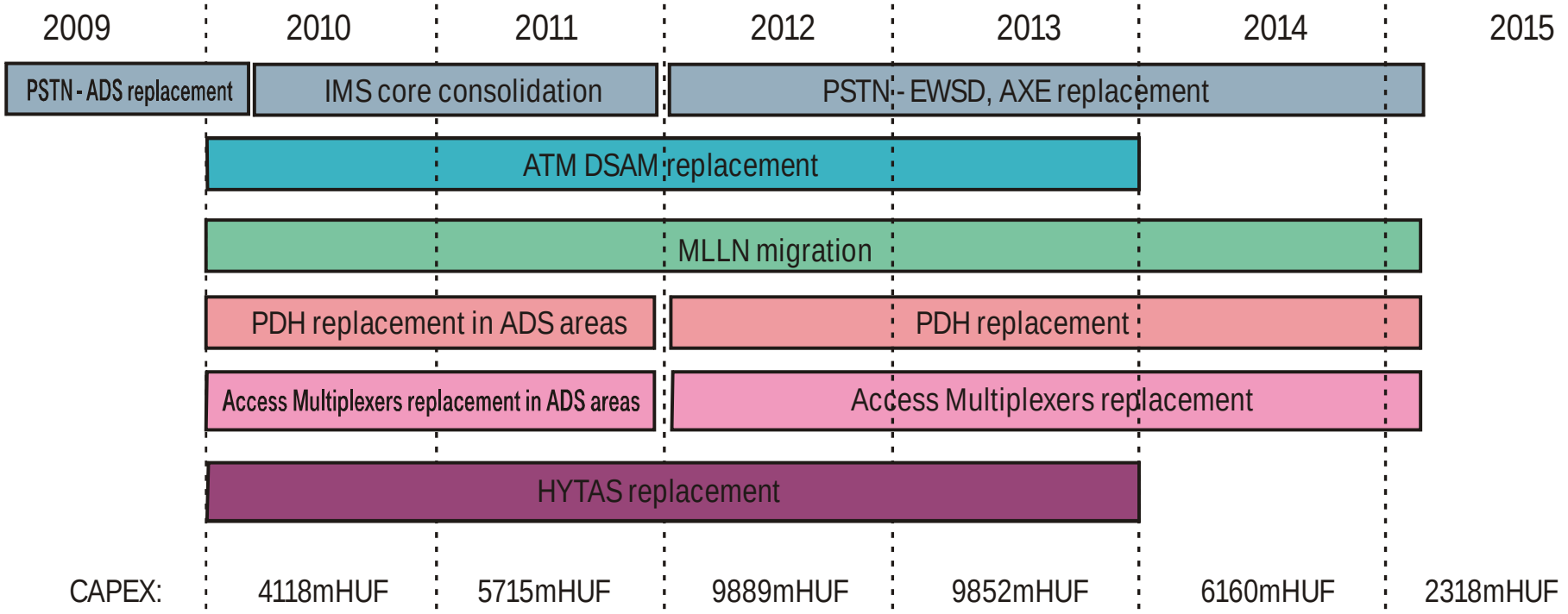


Technical solutions and capex estimation

Platform	Short description of replacement	Estimated capex in paralel realisation (mHUF)
Hytas-Ke	Migration to GPON	13400
	Migration by MSAN	
	in T-Kábel areas: HFC (DOCSIS 3.0)	
PSTN	replacing PSTN Switches with MGWs and IMS	7000
	replacing RSUs with MSANs	
	reconstruction of Distribution Frames	3500
	installing optical cables and microwave links to replace copper cables	620
MLLN	technology migration to TDMoIP, Eth access for IP VPN and XoT (end-to-end)	2000
	installing optical cables and microwave links to replace copper cables	1 398
ATM DSLAM	migrating DSLAM ports to GPON, IP DSLAMs	1200
	bandwidth limited locations: optical cables and microwave links	624
PDH	installing WDM/L2 switches	2200
Access Multiplexers	Installing new MSANs	1450
	installing optical cables and microwave links to replace copper cables	4 660
XoT: X.25 over TCP IP		38 052

We presumed that PSTN, MLLN, ATM, PDH and Access Mux replacements will go in parallel, which results appr. 2-3 BHUF save on the optical cable and microwave installations.

Proposed time schedule



Conlusions

- The full old legacy network replacement CAPEX is apr. 38 MrdFt in the next 6 years
- Hytas replacement shall be achieved independently from other replacements
- The replacement of PSTN, ATM DSLAMs, Access Muxs and MLLN nodes shall be realised together and they shall be harmonised with the PDH transport migration.
- The most significant cost element is the construction of the new transport media optical cable/microwave links on the rural areas